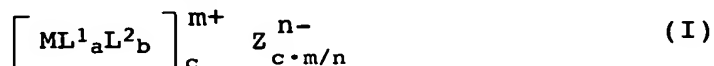


We claim:

- 5 1. A process for preparing polyoxymethylene by contacting a formaldehyde source with a catalyst of the formula I



10 where

M is a metal of group VIII;

L¹ is cyclooctadiene;

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each L² is independently tetrahydrofuran or a ligand which is displaceable by tetrahydrofuran;

Z is an anion;

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a is 1 or 2;

b is an integer from 0 to 4;

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c is 1 or 2; and

m and n are integers from 1 to 4.

2. A process as claimed in claim 1 where

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M is Co, Rh, Ir, Ni, Pd or Pt.

3. A process as claimed in either of the preceding claims where L² is selected from tetrahydrofuran, nitriles, CO, alkenes, amines, ethers, carboxylic esters, cyclic carbonic esters, epoxides, hemiacetals, acetals and nitro compounds.

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4. A process as claimed in claim 3 where L² is selected from acetonitrile, tetrahydrofuran and CO.

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5. A process as claimed in any of the preceding claims where Z is a halide, sulfonate of the formula OSO₂R, where R is alkyl, partially or fully halogenated alkyl or aryl, carboxylate, complexed borate, complexed phosphate, complexed arsenate or complexed antimonate, with the proviso that not all Z radicals are halide.

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Translation of amended sheets annexed to the IPER

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6. A process as claimed in claim 5 wherein at least one Z radical is a perfluoroalkylsulfonate, tetrafluoroborate, hexafluorophosphate or hexafluoroantimonate.

5 7. A process as claimed in any of the preceding claims where the catalyst is selected from
[Pd(II)(cod)(THF)_x](SbF₆)₂ and
[Pd(II)(cod)(CH₃CN)_x](PF₆)₂
where

10 cod is cyclooctadiene,
THF is tetrahydrofuran and
x is an integer from 1 to 3.

15 8. A process as claimed in any of the preceding claims where the formaldehyde source is formaldehyde, trioxane or paraformaldehyde.

20 9. A process for preparing polyoxymethylene by contacting a formaldehyde source with a catalyst of the formula
[Ir(III)Cp*Cl₂Ir(III)Cp*Cl]CF₃SO₃
where
Cp* is pentamethylcyclopentadienyl.

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